# CONSORT-EHEALTH (V 1.6.1) -Submission/Publication Form

The CONSORT-EHEALTH checklist is intended for authors of randomized trials evaluating web-based and Internet-based applications/interventions, including mobile interventions, electronic games (incl multiplayer games), social media, certain telehealth applications, and other interactive and/or networked electronic applications. Some of the items (e.g. all subitems under item 5 - description of the intervention) may also be applicable for other study designs.

The goal of the CONSORT EHEALTH checklist and guideline is to be

- a) a guide for reporting for authors of RCTs,
- b) to form a basis for appraisal of an ehealth trial (in terms of validity)

CONSORT-EHEALTH items/subitems are MANDATORY reporting items for studies published in the Journal of Medical Internet Research and other journals / scientific societies endorsing the checklist.

Items numbered 1., 2., 3., 4a., 4b etc are original CONSORT or CONSORT-NPT (nonpharmacologic treatment) items.

Items with Roman numerals (i., ii, iii, iv etc.) are CONSORT-EHEALTH extensions/clarifications.

As the CONSORT-EHEALTH checklist is still considered in a formative stage, we would ask that you also RATE ON A SCALE OF 1-5 how important/useful you feel each item is FOR THE PURPOSE OF THE CHECKLIST and reporting guideline (optional).

Mandatory reporting items are marked with a red \*.

In the textboxes, either copy & paste the relevant sections from your manuscript into this form - please include any quotes from your manuscript in QUOTATION MARKS, or answer directly by providing additional information not in the manuscript, or elaborating on why the item was not relevant for this study.

YOUR ANSWERS WILL BE PUBLISHED AS A SUPPLEMENTARY FILE TO YOUR PUBLICATION IN JMIR AND ARE CONSIDERED PART OF YOUR PUBLICATION (IF ACCEPTED). Please fill in these questions diligently. Information will not be copyedited, so please use

proper spelling and grammar, use correct capitalization, and avoid abbreviations.

DO NOT FORGET TO SAVE AS PDF \_AND\_ CLICK THE SUBMIT BUTTON SO YOUR ANSWERS ARE IN OUR DATABASE !!!

Citation Suggestion (if you append the pdf as Appendix we suggest to cite this paper in the caption):

Eysenbach G, CONSORT-EHEALTH Group

CONSORT-EHEALTH: Improving and Standardizing Evaluation Reports of Web-based and Mobile Health Interventions

J Med Internet Res 2011;13(4):e126

URL: http://www.jmir.org/2011/4/e126/

doi: 10.2196/jmir.1923 PMID: 22209829

\* Required

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Title of your manuscript \*

Provide the (draft) title of your manuscript.

Effects of a mindfulness app on employee stress: results of a randomised controlled trial in an Australian public sector workforce

Name of your App/Software/Intervention \*

If there is a short and a long/alternate name, write the short name first and add the long name in brackets.

SMWP App (Smiling Mind Workplace Program

Evaluated Version (if any)
e.g. "V1", "Release 2017-03-01", "Version 2.0.27913"
Your answer
Language(s) * What language is the intervention/app in? If multiple languages are available, separate by comma (e.g. "English, French")
English
URL of your Intervention Website or App e.g. a direct link to the mobile app on app in appstore (itunes, Google Play), or URL of the website. If the intervention is a DVD or hardware, you can also link to an Amazon page.
https://www.smilingmind.com.au/mindfulness-workplace
URL of an image/screenshot (optional)
Your answer
Accessibility * Can an enduser access the intervention presently?
access is free and open
access only for special usergroups, not open
<ul> <li>access is open to everyone, but requires payment/subscription/in-app purchases</li> </ul>
app/intervention no longer accessible
Other:

Primary Medical Indication/Disease/Condition *	Primar	y Medical	Indication.	/Disease/	/Condition *
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e.g. "Stress", "Diabetes", or define the target group in brackets after the condition, e.g. "Autism (Parents of children with)", "Alzheimers (Informal Caregivers of)"

Employee stress

# Primary Outcomes measured in trial \*

comma-separated list of primary outcomes reported in the trial

perceived stress

#### Secondary/other outcomes

Are there any other outcomes the intervention is expected to affect?

mindfulness, psychological distress, quality of life, psychosocial job quality, organisational citizenship, health-related lost productive time, observed mindful behaviours

# Recommended "Dose" \*

What do the instructions for users say on how often the app should be used?

- Approximately Daily
- Approximately Weekly
- Approximately Monthly
- **Approximately Yearly**
- "as needed"
- 5 days a week Other:

Approx. Percentage of Users (starters) still using the app as recommended after 3 months *
unknown / not evaluated
0-10%
11-20%
21-30%
31-40%
41-50%
51-60%
61-70%
71%-80%
81-90%
91-100%
Other:
Overall, was the app/intervention effective? *
yes: all primary outcomes were significantly better in intervention group vs control
partly: SOME primary outcomes were significantly better in intervention group vs control
on statistically significant difference between control and intervention
potentially harmful: control was significantly better than intervention in one or more outcomes
inconclusive: more research is needed
Other:

Article Preparation Status/Stage *  At which stage in your article preparation are you currently (at the time you fill in this form)
not submitted yet - in early draft status
onot submitted yet - in late draft status, just before submission
submitted to a journal but not reviewed yet
submitted to a journal and after receiving initial reviewer comments
submitted to a journal and accepted, but not published yet
O published
Other:
Journal *
If you already know where you will submit this paper (or if it is already submitted), please provide the journal name (if it is not JMIR, provide the journal name under "other")
journal name (if it is not JMIR, provide the journal name under "other")
journal name (if it is not JMIR, provide the journal name under "other")  not submitted yet / unclear where I will submit this
journal name (if it is not JMIR, provide the journal name under "other")  not submitted yet / unclear where I will submit this  Journal of Medical Internet Research (JMIR)
journal name (if it is not JMIR, provide the journal name under "other")  not submitted yet / unclear where I will submit this  Journal of Medical Internet Research (JMIR)  JMIR mHealth and UHealth
journal name (if it is not JMIR, provide the journal name under "other")  not submitted yet / unclear where I will submit this  Journal of Medical Internet Research (JMIR)  JMIR mHealth and UHealth  JMIR Serious Games
journal name (if it is not JMIR, provide the journal name under "other")  not submitted yet / unclear where I will submit this  Journal of Medical Internet Research (JMIR)  JMIR mHealth and UHealth  JMIR Serious Games  JMIR Mental Health
journal name (if it is not JMIR, provide the journal name under "other")  not submitted yet / unclear where I will submit this  Journal of Medical Internet Research (JMIR)  JMIR mHealth and UHealth  JMIR Serious Games  JMIR Mental Health  JMIR Public Health

Is this a full powered effectiveness trial or a pilot/feasibility trial? *
O Pilot/feasibility
Fully powered
Manuscript tracking number *
If this is a JMIR submission, please provide the manuscript tracking number under "other" (The ms tracking number can be found in the submission acknowledgement email, or when you login as author in JMIR. If the paper is already published in JMIR, then the ms tracking number is the four-digit number at the end of the DOI, to be found at the bottom of each published article in JMIR)
on ms number (yet) / not (yet) submitted to / published in JMIR
Other:
TITLE AND ABSTRACT
1a) TITLE: Identification as a randomized trial in the title
1a) Does your paper address CONSORT item 1a? *  I.e does the title contain the phrase "Randomized Controlled Trial"? (if not, explain the reason under "other")
yes
Other:

#### 1a-i) Identify the mode of delivery in the title

Identify the mode of delivery. Preferably use "web-based" and/or "mobile" and/or "electronic game" in the title. Avoid ambiguous terms like "online", "virtual", "interactive". Use "Internet-based" only if Intervention includes non-web-based Internet components (e.g. email), use "computer-based" or "electronic" only if offline products are used. Use "virtual" only in the context of "virtual reality" (3-D worlds). Use "online" only in the context of "online support groups". Complement or substitute product names with broader terms for the class of products (such as "mobile" or "smart phone" instead of "iphone"), especially if the application runs on different platforms.

subitem not at all important essential

Clear selection

# Does your paper address subitem 1a-i? \*

Copy and paste relevant sections from manuscript title (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Article title: Effects of a mindfulness app on employee stress: results of a randomised controlled trial in an Australian public sector workforce

1a-ii) Non-web-based components or important co-interventions in title

Mention non-web-based components or important co-interventions in title, if any (e.g., "with telephone support").

subitem not at all important essential

Clear selection

#### Does your paper address subitem 1a-ii?

Copy and paste relevant sections from manuscript title (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We did not use an intervention that was not app-based.

# 1a-iii) Primary condition or target group in the title

Mention primary condition or target group in the title, if any (e.g., "for children with Type I Diabetes") Example: A Web-based and Mobile Intervention with Telephone Support for Children with Type I Diabetes: Randomized Controlled Trial

Clear selection

essential

#### Does your paper address subitem 1a-iii? \*

subitem not at all important

Copy and paste relevant sections from manuscript title (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Target group "Australian public sector workforce" is in the title

# 1b) ABSTRACT: Structured summary of trial design, methods, results, and conclusions

NPT extension: Description of experimental treatment, comparator, care providers, centers, and blinding status.

# 1b-i) Key features/functionalities/components of the intervention and comparator in the METHODS section of the ABSTRACT

Mention key features/functionalities/components of the intervention and comparator in the abstract. If possible, also mention theories and principles used for designing the site. Keep in mind the needs of systematic reviewers and indexers by including important synonyms. (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

subitem not at all important essential

Clear selection

# Does your paper address subitem 1b-i? \*

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

"The app used in the Smiling Mind Workplace Program (SMWP) formed the basis of the intervention. The SMWP app has 43 elements, including lessons, activities and guided meditations, and is supported by four instructional emails delivered over eight weeks. Usage guides recommend 10-20 minutes engagement with the app, five days a week. .... Eligible participants (n=211) were randomly assigned to self-guided app use plus four one-hour classes (App+), self-quided app use (App-only), or wait-list control (WLC)."

#### 1b-ii) Level of human involvement in the METHODS section of the ABSTRACT

Clarify the level of human involvement in the abstract, e.g., use phrases like "fully automated" vs. "therapist/nurse/care provider/physician-assisted" (mention number and expertise of providers involved, if any). (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

	1	2	3	4	5	
subitem not at all important	0	0	0	0	•	essential

Clear selection

#### Does your paper address subitem 1b-ii?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

In the abstract: "This study primarily aimed to assess the effectiveness of a mindfulness app, both with and without supporting classes ..."

# 1b-iii) Open vs. closed, web-based (self-assessment) vs. face-to-face assessments in the METHODS section of the ABSTRACT

Mention how participants were recruited (online vs. offline), e.g., from an open access website or from a clinic or a closed online user group (closed usergroup trial), and clarify if this was a purely web-based trial, or there were face-to-face components (as part of the intervention or for assessment). Clearly say if outcomes were self-assessed through questionnaires (as common in web-based trials). Note: In traditional offline trials, an open trial (open-label trial) is a type of clinical trial in which both the researchers and participants know which treatment is being administered. To avoid confusion, use "blinded" or "unblinded" to indicated the level of blinding instead of "open", as "open" in web-based trials usually refers to "open access" (i.e. participants can self-enrol). (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

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subitem not at all important	0	0	0	0	•	essential
						Clear selection

#### Does your paper address subitem 1b-iii?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

In abstract: "Employees of the Tasmanian State Service workforce were invited by the Tasmanian Training Consortium to join a three-arm RCT investigating the effects of a mindfulness app on stress. Expressions of interest and surveys were conducted online."

#### 1b-iv) RESULTS section in abstract must contain use data

Report number of participants enrolled/assessed in each group, the use/uptake of the intervention (e.g., attrition/adherence metrics, use over time, number of logins etc.), in addition to primary/secondary outcomes. (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

subitem not at all important

essential

Clear selection

#### Does your paper address subitem 1b-iv?

subitem not at all important

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

In Abstract (Methods): "Eligible participants (n=211) were randomly assigned to self-quided app use plus four one-hour classes (App+, n=70), self-guided app use (App-only, n=71), or wait-list control (WLC, n=70). And in Results: App engagement by the App+ group (35%) and App-only group (13%) was considerably lower than recommended."

#### 1b-v) CONCLUSIONS/DISCUSSION in abstract for negative trials

Conclusions/Discussions in abstract for negative trials: Discuss the primary outcome - if the trial is negative (primary outcome not changed), and the intervention was not used, discuss whether negative results are attributable to lack of uptake and discuss reasons. (Note: Only report in the abstract what the main paper is reporting. If this information is missing from the main body of text, consider adding it)

Clear selection

essential

#### Does your paper address subitem 1b-v?

Copy and paste relevant sections from the manuscript abstract (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

In abstract (Conclusion): "Including classes in the training protocol appears to have motivated engagement and led to benefits, while self-quided app-use did not realise any significant results. Effect sizes were smaller and less consistent than meta-analytic estimates for class-based mindfulness training."

INTRODUCTION	
2a) In INTRODUCTION: Scientific background and explanation of rationale	

# 2a-i) Problem and the type of system/solution

Describe the problem and the type of system/solution that is object of the study: intended as stand-alone intervention vs. incorporated in broader health care program? Intended for a particular patient population? Goals of the intervention, e.g., being more cost-effective to other interventions, replace or complement other solutions? (Note: Details about the intervention are provided in "Methods" under 5)

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subitem not at all important	0	0	0	0	0	essential

#### Does your paper address subitem 2a-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.3: "The trial followed an earlier pilot RCT of a five-week Mindfulness at Work Program (MaWP) within the same workforce [30]. The MaWP involved five 90-minute in-person classes and prescribed 20 minutes' daily meditation practice. Results of the pilot showed strong effects for stress reduction, mental health and wellbeing but no significant improvements in health-related productivity. In-person class attendance in work time was found to be unfeasible for a high proportion of employees, due to scheduling and geographical barriers. The current study was conceived to examine if low-dose mindfulness training using a mindfulness app could overcome accessibility challenges and realise the beneficial outcomes for employee stress observed in the face-to-face program."

#### 2a-ii) Scientific background, rationale: What is known about the (type of) system

Scientific background, rationale: What is known about the (type of) system that is the object of the study (be sure to discuss the use of similar systems for other conditions/diagnoses, if appropiate), motivation for the study, i.e. what are the reasons for and what is the context for this specific study, from which stakeholder viewpoint is the study performed, potential impact of findings [2]. Briefly justify the choice of the comparator.

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subitem not at all important	0	0	0	0	0	essentia

#### Does your paper address subitem 2a-ii? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.3-4: "Unmanaged stress is known to lead to psychological distress, depression and anxiety [6, 7], which are well evidenced contributors to lost productivity via higher levels of employee absenteeism and presenteeism [8]. In Australia, the combined annual cost of absenteeism and presenteeism attributable to poor mental health is over \$11 billion, representing a significant economic burden [9]. Mindfulness training may help redress the organisational burden of health-related lost productive time by improving mental health [10]. Furthermore, consequences of chronic stress include inattentiveness and antisocial or aggressive behaviour that can be detrimental to work-based relationships and performance [11].

Mindfulness meditation involves the sustained practice of intentionally applying nonjudgmental attention to current experience. There is some evidence that this practice improves attentional capacities [12], prosocial acting [13], and qualities that influence interpersonal relationships such as gratitude and forgiveness [14]. Aggression has also been shown to reduce following mindfulness training [15]. Amassing evidence does suggest that increasing mindfulness through training can improve workplace performance, relationships and wellbeing [16, 17].

Smart-phone applications (apps) are an increasingly popular and accessible mode of delivery for mindfulness training and practice [18]. App functionality enables high quality multi-media delivery of learning content that can be entirely pre-programmed to maximise intervention integrity and support self-guided learning [19]. For behavioural research, apps also have the ability to record engagement and usage data. These data offer a more accurate measure of program engagement than participant recall, which is often used in mindfulness studies [20]."

2b) In INTRODUCTION: Specific objectives or hypotheses

#### Does your paper address CONSORT subitem 2b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4-5: "The primary aim for the current study was to assess the efficacy of the SMWP App offered both with, and without supporting classes, for reducing employee stress (Aim 1). We hypothesised that employees using the SMWP App in conjunction with a series of four onehour classes (App+ group) or using the SMWP App self-guided, without supporting classes (App-only group), would each report a consistent moderate sized reduction in perceived stress when compared with a wait-list control (WLC group).

Secondary aims were to explore the effects of this low-dose mindfulness intervention on psychological distress, mindfulness, health-related quality of life, perceived job demands, control and resources (Aim 2); changes in health-related lost productive time (Aim 3); and observer-reported changes in participants' organisational citizenship and mindful behaviours (Aim 4). Effect retention was also investigated (Aim 5)."

#### **METHODS**

3a) Description of trial design (such as parallel, factorial) including allocation ratio

#### Does your paper address CONSORT subitem 3a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

- p.4: "A three-arm open label parallel group RCT was conducted between February 2018 and April 2019."
- p.5: "An independent statistician (PO) randomised eligible participants to the three groups, stratified by whether or not they had an observer."
- 3b) Important changes to methods after trial commencement (such as eligibility criteria), with reasons

#### Does your paper address CONSORT subitem 3b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

No changes were made to the trial after commencement. However ...

p.4: "A further data collection wave was conducted 14 months from baseline (T3), but analyses were not conducted due to high (85%) attrition (data not reported)."

#### 3b-i) Bug fixes, Downtimes, Content Changes

Bug fixes, Downtimes, Content Changes: ehealth systems are often dynamic systems. A description of changes to methods therefore also includes important changes made on the intervention or comparator during the trial (e.g., major bug fixes or changes in the functionality or content) (5-iii) and other "unexpected events" that may have influenced study design such as staff changes, system failures/downtimes, etc. [2].

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0	0	0	0	0	essential

#### Does your paper address subitem 3b-i?

subitem not at all important

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.5: "The established low-dose mindfulness program involves a series of five learning modules delivered in four interactive one-hour face-to-face workshops.

To maximise accessibility, SWMP workshops were delivered in a seminar format in university venues located in the north, north-west and south of the state. Classes ran twice, in the morning and afternoon, on the advertised dates. Participants were able to attend in person or via video conferencing, and catch-up recordings were made available."

# 4a) Eligibility criteria for participants

#### Does your paper address CONSORT subitem 4a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "Eligibility criteria included no concurrent mindfulness or stress-management program; able to attend four one-hour seminars in person or via video-conference; and not having unmanaged depression or other mental health condition that might be exacerbated with unsupervised meditation."

# 4a-i) Computer / Internet literacy

Computer / Internet literacy is often an implicit "de facto" eligibility criterion - this should be explicitly clarified.

1 2 3 4 5

0 0 0 0 0

subitem not at all important

#### essential

essential

### Does your paper address subitem 4a-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Training was provided during work time and employees have access to the internet and video-conferencing facilities via work-provided infrastructure.

### 4a-ii) Open vs. closed, web-based vs. face-to-face assessments:

Open vs. closed, web-based vs. face-to-face assessments: Mention how participants were recruited (online vs. offline), e.g., from an open access website or from a clinic, and clarify if this was a purely web-based trial, or there were face-to-face components (as part of the intervention or for assessment), i.e., to what degree got the study team to know the participant. In online-only trials, clarify if participants were quasi-anonymous and whether having multiple identities was possible or whether technical or logistical measures (e.g., cookies, email confirmation, phone calls) were used to detect/prevent these.

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#### Does your paper address subitem 4a-ii? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "The study sample was drawn from the Tasmanian State Service (TSS). The TSS employs approximately 18,000 people in 18 service agencies and centres across the island state of Tasmania, Australia. TSS employees work in a wide variety of roles (e.g. front-line service, professional, administration, information and asset management and maintenance). Calls for expressions of interest to join the study were facilitated by the Tasmanian Training Consortium (TTC), the unit within the TSS that provides and coordinates staff development and training services."

p.5: "Research personnel only interacted with randomised participants by email to administer the online surveys, and all analyses were conducted on de-identified data."

#### 4a-iii) Information giving during recruitment

Information given during recruitment. Specify how participants were briefed for recruitment and in the informed consent procedures (e.g., publish the informed consent documentation as appendix, see also item X26), as this information may have an effect on user self-selection, user expectation and may also bias results.

subitem not at all important essential

#### Does your paper address subitem 4a-iii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "An invitation was widely disseminated via email and staff newsletters to express interest in joining a study of app-based mindfulness training for employee stress protection (supplementary online materials). The Tasmanian Training Consortium (TTC), which provides TSS staff development and training services, coordinated invitation dissemination and collated responses."

4b) Settings and locations where the data were collected

#### Does your paper address CONSORT subitem 4b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p,4: "Baseline data were collected using online surveys administered during February 2018 (T0). Post-intervention surveys were conducted three-months from baseline, in May 2018 (T1), with six-month follow-up in July 2018 (T2)."

#### 4b-i) Report if outcomes were (self-)assessed through online questionnaires

Clearly report if outcomes were (self-)assessed through online questionnaires (as common in web-based trials) or otherwise.

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0	0	0	0	0	essentia

subitem not at all important

# Does your paper address subitem 4b-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Yes, all outcomes were assessed via self-report surveys.

#### 4b-ii) Report how institutional affiliations are displayed

Report how institutional affiliations are displayed to potential participants [on ehealth media], as affiliations with prestigious hospitals or universities may affect volunteer rates, use, and reactions with regards to an intervention.(Not a required item – describe only if this may bias results)

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subitem not at all important	0	0	0	0	0	essential

#### Does your paper address subitem 4b-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Your answer

5) The interventions for each group with sufficient details to allow replication, including how and when they were actually administered

5-i) Mention names, credential, affiliations of the developers, sponsors, and owners

Mention names, credential, affiliations of the developers, sponsors, and owners [6] (if authors/evaluators are owners or developer of the software, this needs to be declared in a "Conflict of interest" section or mentioned elsewhere in the manuscript).

5

essential

subitem not at all important

#### Does your paper address subitem 5-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Interventions as delivered are described in the manuscript on p.5.

Owners, development history, contributors and affiliations for the SMWP app are included in supplementary online materials.

#### 5-ii) Describe the history/development process

Describe the history/development process of the application and previous formative evaluations (e.g., focus groups, usability testing), as these will have an impact on adoption/use rates and help with interpreting results.

1 2 3 4 5

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subitem not at all important

essential

#### Does your paper address subitem 5-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Owners, development history, contributors and affiliations for the SMWP app are included in supplementary online materials.

# 5-iii) Revisions and updating

Revisions and updating. Clearly mention the date and/or version number of the application/intervention (and comparator, if applicable) evaluated, or describe whether the intervention underwent major changes during the evaluation process, or whether the development and/or content was "frozen" during the trial. Describe dynamic components such as news feeds or changing content which may have an impact on the replicability of the intervention (for unexpected events see item 3b).

1 2 3 4 5

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subitem not at all important

essential

#### Does your paper address subitem 5-iii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The SMWP app was not altered during the intervention. A version number was not available, but the app contents were static and as used in the established Smiling Mind Workplace Program.

#### 5-iv) Quality assurance methods

Provide information on quality assurance methods to ensure accuracy and quality of information provided [1], if applicable.

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subitem not at all important

essential

#### Does your paper address subitem 5-iv?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

N/A - the development or quality of content included in the intervention were not considered as part of this study, which focused instead on the efficacy of the intervention for stress and other outcomes.

5-v) Ensure replicability by publishing the source code, and/or providing screenshots/screen-capture video, and/or providing flowcharts of the algorithms used

Ensure replicability by publishing the source code, and/or providing screenshots/screen-capture video, and/or providing flowcharts of the algorithms used. Replicability (i.e., other researchers should in principle be able to replicate the study) is a hallmark of scientific reporting.

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subitem not at all important

essential

#### Does your paper address subitem 5-v?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The source code and screen shots for the app are available from Smiling Mind. Contacts are provided in the supplementary materials.

#### 5-vi) Digital preservation

Digital preservation: Provide the URL of the application, but as the intervention is likely to change or disappear over the course of the years; also make sure the intervention is archived (Internet Archive, webcitation.org, and/or publishing the source code or screenshots/videos alongside the article). As pages behind login screens cannot be archived, consider creating demo pages which are accessible without login.

subitem not at all important

essential

#### Does your paper address subitem 5-vi?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The source code and screen shots for the app are available from Smiling Mind. Contacts are provided in the supplementary materials.

#### 5-vii) Access

Access: Describe how participants accessed the application, in what setting/context, if they had to pay (or were paid) or not, whether they had to be a member of specific group. If known, describe how participants obtained "access to the platform and Internet" [1]. To ensure access for editors/reviewers/readers, consider to provide a "backdoor" login account or demo mode for reviewers/readers to explore the application (also important for archiving purposes, see vi).

5

subitem not at all important

essential

#### Does your paper address subitem 5-vii? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Participants could download and use the app at a time of their choosing. Reviewers are invited to contact Smiling Mind (see supplementary materials) to gain 'back door' access.

- p.5: "Participants could download the app using a link in the welcome email from Smiling Mind."
- p.6: "The costs associated with accessing the SMWP app and classes were paid under a service agreement between the TTC and Smiling Mind. Participants were not required to pay for their own access and access to the SMWP App was available for 12 months."

# 5-viii) Mode of delivery, features/functionalities/components of the intervention and comparator, and the theoretical framework

Describe mode of delivery, features/functionalities/components of the intervention and comparator, and the theoretical framework [6] used to design them (instructional strategy [1], behaviour change techniques, persuasive features, etc., see e.g., [7, 8] for terminology). This includes an in-depth description of the content (including where it is coming from and who developed it) [1]," whether [and how] it is tailored to individual circumstances and allows users to track their progress and receive feedback" [6]. This also includes a description of communication delivery channels and - if computermediated communication is a component - whether communication was synchronous or asynchronous [6]. It also includes information on presentation strategies [1], including page design principles, average amount of text on pages, presence of hyperlinks to other resources, etc. [1].

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subitem not at all important	0	0	0	0	0	essentia

#### Does your paper address subitem 5-viii? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The intervention is described in the manuscript (p.5). The development history, detailed structure, features and functions of the app are available in the Supplementary Materials.

#### 5-ix) Describe use parameters

Describe use parameters (e.g., intended "doses" and optimal timing for use). Clarify what instructions or recommendations were given to the user, e.g., regarding timing, frequency, heaviness of use, if any, or was the intervention used ad libitum.

subitem not at all important

essential

#### Does your paper address subitem 5-ix?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The training dose is reported in methods on p.5: "The recommended minimum engagement with the SMWP App is 10 minutes meditation and/or activities per weekday."

# 5-x) Clarify the level of human involvement

Clarify the level of human involvement (care providers or health professionals, also technical assistance) in the e-intervention or as co-intervention (detail number and expertise of professionals involved, if any, as well as "type of assistance offered, the timing and frequency of the support, how it is initiated, and the medium by which the assistance is delivered". It may be necessary to distinguish between the level of human involvement required for the trial, and the level of human involvement required for a routine application outside of a RCT setting (discuss under item 21 – generalizability).

subitem not at all important

essential

#### Does your paper address subitem 5-x?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Human contact with participants in relation to the intervention was limited to a) psychologist screening (if required) and b) the SMWP teacher (if in the App or WLC groups). The research team communicated only with participants to invite survey completion. This is referred to on p.5: "All classes were led by the same mindfulness teacher with certification from the University of Massachusetts Centre for Mindfulness and more than 10-year's teaching experience. No supplementary messaging, incentives or other forms of contact from the study team were used to encourage intervention engagement."

Participants were advised their training dates by the TTC. Instructions for using the app were included in generic welcome email sent by Smiling Mind. Please refer to p.4: "Calls for expressions of interest to join the study and advice regarding group allocations and training schedules were facilitated by the Tasmanian Training Consortium (TTC), the unit within the TSS that provides and coordinates staff development and training services."

#### 5-xi) Report any prompts/reminders used

Report any prompts/reminders used: Clarify if there were prompts (letters, emails, phone calls, SMS) to use the application, what triggered them, frequency etc. It may be necessary to distinguish between the level of prompts/reminders required for the trial, and the level of prompts/reminders for a routine application outside of a RCT setting (discuss under item 21 - generalizability).

subitem not at all important essential

#### Does your paper address subitem 5-xi? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

- p.5: "Use of the app-based activities and meditations is supported by fortnightly emails relating to the content covered in the workshops and app-based lessons."
- p.5: "No supplementary messaging, incentives or other forms of contact from the study team were used to encourage intervention engagement."

#### 5-xii) Describe any co-interventions (incl. training/support)

Describe any co-interventions (incl. training/support): Clearly state any interventions that are provided in addition to the targeted eHealth intervention, as ehealth intervention may not be designed as stand-alone intervention. This includes training sessions and support [1]. It may be necessary to distinguish between the level of training required for the trial, and the level of training for a routine application outside of a RCT setting (discuss under item 21 - generalizability.

subitem not at all important

essential

#### Does your paper address subitem 5-xii? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The SMWP classes were included in the App+ group intervention. The content and structure of the classes are available in the Supplementary Materials.

# 6a) Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed

#### Does your paper address CONSORT subitem 6a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Please refer to the manuscript section entitled "Measures" (p.6) which describes each measure used to assess the primary and secondary outcomes, including when each measure was administered.

6a-i) Online questionnaires: describe if they were validated for online use and apply CHERRIES items to describe how the questionnaires were designed/deployed

If outcomes were obtained through online questionnaires, describe if they were validated for online use and apply CHERRIES items to describe how the questionnaires were designed/deployed [9].

subitem not at all important

essential

Does your paper address subitem 6a-i?

Copy and paste relevant sections from manuscript text

All measures used, except for the novel Observed Mindfulness Measure (under review) were selected based on prior validation.

6a-ii) Describe whether and how "use" (including intensity of use/dosage) was defined/measured/monitored

Describe whether and how "use" (including intensity of use/dosage) was defined/measured/monitored (logins, logfile analysis, etc.). Use/adoption metrics are important process outcomes that should be reported in any ehealth trial.

subitem not at all important

essential

Does your paper address subitem 6a-ii?

Copy and paste relevant sections from manuscript text

p.8: "Intervention adherence was assessed using self-reported seminar attendance and appusage data from the SMWP server. Whether participants downloaded and engaged with the App (yes/no) was recorded. Engagement was calculated as a proportion of time spent in the SWMP app activities, out of a potential maximum of 343 minutes for the entire program."

6a-iii) Describe whether, how, and when qualitative feedback from participants was obtained

Describe whether, how, and when qualitative feedback from participants was obtained (e.g., through emails, feedback forms, interviews, focus groups).

subitem not at all important

essential

#### Does your paper address subitem 6a-iii?

Copy and paste relevant sections from manuscript text

p.8: "Participant perceptions of acceptability of the intervention were assessed using qualitative data from two open questions in the T1 survey. Observers provided free-text responses at the end of each survey about their experience in the study and to share any additional information about their paired participant."

# 6b) Any changes to trial outcomes after the trial commenced, with reasons

#### Does your paper address CONSORT subitem 6b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

No changes were made to the trial outcomes.

#### 7a) How sample size was determined

NPT: When applicable, details of whether and how the clustering by care provides or centers was addressed

7a-i) Describe whether and how expected attrition was taken into account when calculating the sample size

Describe whether and how expected attrition was taken into account when calculating the sample size.

subitem not at all important

essential

#### Does your paper address subitem 7a-i?

Copy and paste relevant sections from manuscript title (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.8: "The required sample size was calculated using a pooled PSS estimate from a metaanalysis from 13 RCTs of WMPs (d= -0.54, mean difference -4.21, SE=0.14) [1]. To achieve power of 0.8 and  $\mathbb{Z}=0.025$  (maintaining a family-wise error rate of 0.05) [44], a minimum of 198 participants was required. The recruitment target (n=261) allowed for 25% attrition."

# 7b) When applicable, explanation of any interim analyses and stopping guidelines

#### Does your paper address CONSORT subitem 7b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Interim analyses and stopping guidelines were not required.

#### 8a) Method used to generate the random allocation sequence

NPT: When applicable, how care providers were allocated to each trial group

#### Does your paper address CONSORT subitem 8a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.5: "An independent statistician (PO) randomised eligible participants to the three groups, stratified by whether or not they had an observer."

8b) Type of randomisation; details of any restriction (such as blocking and block size)

#### Does your paper address CONSORT subitem 8b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Blocks of three were applied during randomisation.

9) Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned

#### Does your paper address CONSORT subitem 9? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.5: "An independent statistician (PO) randomised eligible participants to the three groups, stratified by whether or not they had an observer. Group allocations were sent to the TTC, who notified participants of their training schedule and coordinated the seminars."

10) Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions

#### Does your paper address CONSORT subitem 10? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.5: "An independent statistician (PO) randomised eligible participants to the three groups, stratified by whether or not they had an observer. Group allocations were sent to the TTC, who notified participants of their training schedule and coordinated the seminars."

# 11a) If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how

NPT: Whether or not administering co-interventions were blinded to group assignment

#### 11a-i) Specify who was blinded, and who wasn't

Specify who was blinded, and who wasn't. Usually, in web-based trials it is not possible to blind the participants [1, 3] (this should be clearly acknowledged), but it may be possible to blind outcome assessors, those doing data analysis or those administering co-interventions (if any).

essential

subitem not at all important

#### Does your paper address subitem 11a-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.5: "It was not feasible to blind the TTC staff, study participants or teacher to treatment [33]."

11a-ii) Discuss e.g., whether participants knew which intervention was the "intervention of interest" and which one was the "comparator"

Informed consent procedures (4a-ii) can create biases and certain expectations - discuss e.g., whether participants knew which intervention was the "intervention of interest" and which one was the "comparator".

subitem not at all important

essential

#### Does your paper address subitem 11a-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

It is likely the WLC was known to be the comparator.

#### 11b) If relevant, description of the similarity of interventions

(this item is usually not relevant for ehealth trials as it refers to similarity of a placebo or sham intervention to a active medication/intervention)

#### Does your paper address CONSORT subitem 11b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The difference between the two active groups was the inclusion of the classes in the App+ group, as detailed on p.5 "interventions"

# 12a) Statistical methods used to compare groups for primary and secondary outcomes

NPT: When applicable, details of whether and how the clustering by care providers or centers was addressed

# Does your paper address CONSORT subitem 12a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

This is not applicable in this study.

# 12a-i) Imputation techniques to deal with attrition / missing values

Imputation techniques to deal with attrition / missing values: Not all participants will use the intervention/comparator as intended and attrition is typically high in ehealth trials. Specify how participants who did not use the application or dropped out from the trial were treated in the statistical analysis (a complete case analysis is strongly discouraged, and simple imputation techniques such as LOCF may also be problematic [4]).

essential

subitem not at all important

# Does your paper address subitem 12a-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Linear mixed models were used to assess change, as this method can accommodate missingness.

12b) Methods for additional analyses, such as subgroup analyses and adjusted analyses

#### Does your paper address CONSORT subitem 12b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

- p.8: "Significance tests (N=0.05) were adjusted using the Tukey method for multiple comparisons when more than two groups were in the model."
- p.8: "Repeated measures linear mixed models were used to assess changes in the App+ and App only groups compared with the WLC from T0 to T1, with age, sex, prior mindfulness training and main occupation included to inform missing data computations. Two-group comparisons were used to test the difference in effect retention between the App+ and App groups beyond T1."
- p.8: "Agreement between participants and their observers was assessed using ICC estimates in two-way random effects models following Koo and Li [51] guidelines (0.5 = poor, 0.5 to 0.75 = moderate, 0.75 to 0.9 = good and over 0.9 is excellent agreement). Spearman's correlations were used to test the relationship between program adherence and study outcomes. Chi-squared and Fisher's exact tests were used to explore differences in intervention engagement and HRLPT. Qualitative data was read twice by two authors (AM and LB) and with frequent themes identified, coded and assessed using a content analysis approach [52]."

X26) REB/IRB Approval and Ethical Considerations [recommended as subheading under "Methods"] (not a CONSORT item)

X26-i) Comment on ethics committee approval						
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subitem not at all important	0	0	0	0	0	essential

#### Does your paper address subitem X26-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "The study was approved by the University of Tasmania Health and Medical Human Research Ethics Committee (Ref: H0016587)"

#### x26-ii) Outline informed consent procedures

Outline informed consent procedures e.g., if consent was obtained offline or online (how? Checkbox, etc.?), and what information was provided (see 4a-ii). See [6] for some items to be included in informed consent documents.

subitem not at all important essential

# Does your paper address subitem X26-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.5: "Consent to participate in the research was given at the commencement of each survey, and no incentives were provided."

#### X26-iii) Safety and security procedures

Safety and security procedures, incl. privacy considerations, and any steps taken to reduce the likelihood or detection of harm (e.g., education and training, availability of a hotline)

subitem not at all important

essential

#### Does your paper address subitem X26-iii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Data security was ensured via collection and storage on password protected servers and applications.

Participants were provided with contact details for psychological support in the event they experienced discomfort or upset as a result of being involved in the study.

#### **RESULTS**

13a) For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome

NPT: The number of care providers or centers performing the intervention in each group and the number of patients treated by each care provider in each center

#### Does your paper address CONSORT subitem 13a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Please refer to the consort flow diagram (Figure 1).

13b) For each group, losses and exclusions after randomisation, together with reasons

Does your paper address CONSORT subitem 13b? (NOTE: Preferably, this is shown in a CONSORT flow diagram) \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Please refer to the consort flow diagram (Figure 1).

#### 13b-i) Attrition diagram

Strongly recommended: An attrition diagram (e.g., proportion of participants still logging in or using the intervention/comparator in each group plotted over time, similar to a survival curve) or other figures or tables demonstrating usage/dose/engagement.

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essential

subitem not at all important

## Does your paper address subitem 13b-i?

Copy and paste relevant sections from the manuscript or cite the figure number if applicable (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Please refer to the consort flow diagram (Figure 1) and to the manuscript section entitled Participant enrolment and attrition on p.8

#### 14a) Dates defining the periods of recruitment and follow-up

# Does your paper address CONSORT subitem 14a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "RCT was conducted between February 2018 and April 2019."

#### 14a-i) Indicate if critical "secular events" fell into the study period

Indicate if critical "secular events" fell into the study period, e.g., significant changes in Internet resources available or "changes in computer hardware or Internet delivery resources"

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subitem not at all important

essential

#### Does your paper address subitem 14a-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

No critical secular events were recorded.

#### 14b) Why the trial ended or was stopped (early)

#### Does your paper address CONSORT subitem 14b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The trial did not stop early.

# 15) A table showing baseline demographic and clinical characteristics for each

NPT: When applicable, a description of care providers (case volume, qualification, expertise, etc.) and centers (volume) in each group

# Does your paper address CONSORT subitem 15? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Please refer to participant characteristics in Table 1.

## 15-i) Report demographics associated with digital divide issues

In ehealth trials it is particularly important to report demographics associated with digital divide issues, such as age, education, gender, social-economic status, computer/Internet/ehealth literacy of the participants, if known.

essential

subitem not at all important

# Does your paper address subitem 15-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Participants all had access to a smart phone or other device that enabled them to access the intervention.

16) For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups

#### 16-i) Report multiple "denominators" and provide definitions

Report multiple "denominators" and provide definitions: Report N's (and effect sizes) "across a range of study participation [and use] thresholds" [1], e.g., N exposed, N consented, N used more than x times, N used more than y weeks, N participants "used" the intervention/comparator at specific pre-defined time points of interest (in absolute and relative numbers per group). Always clearly define "use" of the intervention.

3

subitem not at all important

essential

essential

#### Does your paper address subitem 16-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.8: "Intention to treat analyses were conducted using an original assigned group approach [45]." The original sample size was used as denominator for ITT analyses (n=211)

#### 16-ii) Primary analysis should be intent-to-treat

Primary analysis should be intent-to-treat, secondary analyses could include comparing only "users", with the appropriate caveats that this is no longer a randomized sample (see 18-i).

subitem not at all important

#### Does your paper address subitem 16-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Yes, our primary analysis was conducted as ITT.

17a) For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)

#### Does your paper address CONSORT subitem 17a? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

These data are reported in Table 2 (p.12)

# 17a-i) Presentation of process outcomes such as metrics of use and intensity of use

In addition to primary/secondary (clinical) outcomes, the presentation of process outcomes such as metrics of use and intensity of use (dose, exposure) and their operational definitions is critical. This does not only refer to metrics of attrition (13-b) (often a binary variable), but also to more continuous exposure metrics such as "average session length". These must be accompanied by a technical description how a metric like a "session" is defined (e.g., timeout after idle time) [1] (report under item 6a).

5 subitem not at all important essential

#### Does your paper address subitem 17a-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.11: "Table 3 shows the SMWP App was downloaded by 49 (70%) of the App+ group and 35 (49%) of the App group. The App+ group also engaged more with the learning and practice elements within the app (35%) and did more meditation practice over the eight-week period (73 meditation minutes) than the App-only group (13% engagement and 27 meditation minutes). Perceived stress change was significantly correlated with intervention engagement in the App+ group (r= -.33), but not in the App-only group. Investigation of T0:T1 change in PSS scores by meditation time and program engagement suggest an inverse linear dose-response pattern in the App+ group. This pattern was not evident in the App-only group (Figure 2)."

# 17b) For binary outcomes, presentation of both absolute and relative effect sizes is recommended

#### Does your paper address CONSORT subitem 17b? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

No binary outcomes are reported.

18) Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory

#### Does your paper address CONSORT subitem 18? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

Analyses reported in this paper were planned.

#### 18-i) Subgroup analysis of comparing only users

A subgroup analysis of comparing only users is not uncommon in ehealth trials, but if done, it must be stressed that this is a self-selected sample and no longer an unbiased sample from a randomized trial (see 16-iii).

subitem not at all important

essential

#### Does your paper address subitem 18-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

We do not report analyses of data from users only vs non-users.

#### 19) All important harms or unintended effects in each group

(for specific guidance see CONSORT for harms)

### Does your paper address CONSORT subitem 19? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.21: "Importantly, no evidence of adverse effects was observed ...."

# 19-i) Include privacy breaches, technical problems

Include privacy breaches, technical problems. This does not only include physical "harm" to participants, but also incidents such as perceived or real privacy breaches [1], technical problems, and other unexpected/unintended incidents. "Unintended effects" also includes unintended positive effects [2].

subitem not at all important

#### Does your paper address subitem 19-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

There were no privacy breaches.

p.16 "A small number of participants reported technical problems with the app and/or seminars." Please refer to Table 5 (p.17) for frequency.

essential

# 19-ii) Include qualitative feedback from participants or observations from staff/researchers

Include qualitative feedback from participants or observations from staff/researchers, if available, on strengths and shortcomings of the application, especially if they point to unintended/unexpected effects or uses. This includes (if available) reasons for why people did or did not use the application as intended by the developers.

	1	2	3	4	5	
subitem not at all important	0	0	0	0	0	essential

#### Does your paper address subitem 19-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.8: (Methods) "Participant perceptions of acceptability of the intervention were assessed using qualitative data from two open questions in the T1 survey. Observers provided freetext responses at the end of each survey about their experience in the study and to share any additional information about their paired participant."

p.15: (Results) "The frequency of themes derived from qualitative data are reported in Table 5. Reports from the two active groups show overall satisfaction with the mindfulness training. Responses to the free-text questions from 57 (40%) of the participants indicated that they found the training useful, practical, helpful or beneficial, more frequently among the App+ (50%) than App-only participants (31%). The App+ group also reported finding the program immediately beneficial (19%) more frequently than the App-only group (6%). The app was considered easy to use by 21 (15%) of all participants. However, while 12 (9%) of participants reported they were incorporating practice into daily life, 18 (13%) respondents found establishing a routine difficult and 12 (9%) participants reported it was not feasible to engage with the program while at work. Comments from 17 (24%) of App+ group participants indicated they found the seminars motivating. However, more App+ group participants reported difficulties associated with time demands (7%) and establishing a practice routine (17%) than App-only group participants (4% and 8% respectively). A small number of participants reported technical problems with the app and/or seminars. One individual in each group reported they felt the research surveys were independently helpful in sensitising them to their mental wellbeing. The in-app elements considered most useful by participants in both active groups were the meditations, ranked highest by 55 (57%) of respondents. Micro-practices, which are brief mindful activities that can be employed throughout the day were rated very useful by 40 (41%) participants, in-app lessons by 31 (32%) participants, and body scan practices by 30 (31%) (data not shown)."

#### DISCUSSION

# 22) Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence

NPT: In addition, take into account the choice of the comparator, lack of or partial blinding, and unequal expertise of care providers or centers in each group

# 22-i) Restate study questions and summarize the answers suggested by the data, starting with primary outcomes and process outcomes (use)

Restate study questions and summarize the answers suggested by the data, starting with primary outcomes and process outcomes (use).

essential

## Does your paper address subitem 22-i? \*

subitem not at all important

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.18: "This RCT assessed the effects of participating in a low-dose, app-based WMP delivered both with and without supporting classes in a sample of public sector employees. The study hypothesis, that using the SMWP App either self-quided or with supporting classes would result in moderate-sized reductions in perceived stress, was not supported. While the App+ group engaged more with the training, neither group achieved the recommended dose. Despite the low engagement, when compared with the inactive control group, the App+ group reported significant increases in mindfulness and decreases in psychological distress. These benefits were retained at six-month follow-up, at which point the App+ group also reported significantly lower perceived job demands than the App-only group. No significant effects were observed for either intervention group for health-related quality of life or productivity. While the SMWP App was well received by most participants in the active groups, those whose training protocol was entirely self-guided engaged less with training and reported no statistically significant changes on any of the study outcomes."

# 22-ii) Highlight unanswered new questions, suggest future research

Highlight unanswered new questions, suggest future research.

5

subitem not at all important

essential

#### Does your paper address subitem 22-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p. 21: in the section headed Limitations, strengths and future research ... "While our results were inconclusive, we recommend the use of HRLTP as an indicator of productivity for workplace-based health-improvement interventions and report productivity and workplace incidents in supplementary materials to support future pooled analyses.

While the current study supports the feasibility of app-based mindfulness training offered both with and without supporting classes, most self-quided users did not engage sufficiently with the SMWP App to realise any consistent benefits. While it is understood that self-guided training can stimulate intrinsic engagement motivations [66] behaviour change techniques (e.g. custom feedback and support, reinforcement and self-monitoring) need to be intelligently integrated into app design. Most of the currently available mindfulness apps rely on self-monitoring and reminder functions to promote engagement [19]. It is anticipated that app functionality will evolve to include more sophisticated learning tools, as employed in online learning platforms, and in so doing will incorporate user-data and real-time processing to support interactivity and tailor content to individual users' capabilities and contexts [67]. For example, technologies used in recreational gaming apps offer potential techniques that can be adapted for therapeutic and educational purposes [68]. While there are 93 recognised behaviour change techniques in current taxonomies [69], a functional review of mental health apps [68] makes 16 key recommendations. We encourage developers of mindfulness apps to draw on this literature and incorporate behaviour change techniques, and to use customised feedback based on usage patterns and participant-entered data to increase engagement and strengthen outcomes. Further, recommendations [19, 70] that developers engage with researchers to conduct pilot evaluations of new developments prior to market release are strongly supported. Research collaborations will help support market-based promotions, build best practice evidence and realise the potential for cultivating mindfulness and related health, social and performance benefits through the use of smart-phone applications."

# 20) Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses

#### 20-i) Typical limitations in ehealth trials

Typical limitations in ehealth trials: Participants in ehealth trials are rarely blinded. Ehealth trials often look at a multiplicity of outcomes, increasing risk for a Type I error. Discuss biases due to non-use of the intervention/usability issues, biases through informed consent procedures, unexpected events.

essential

5

subitem not at all important

#### Does your paper address subitem 20-i? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.21: "The necessary lack of blinding and use of a wait-list rather than an active control means nonspecific factors such as social desirability, expectancy or experimenter effects cannot be ruled out as potential effect moderators. While an additional survey was conducted 14 months from baseline (T3), there was a very high degree of attrition with only 32 (15%) of the starting sample providing data. Follow-up analyses were therefore limited to six-month data."

#### 21) Generalisability (external validity, applicability) of the trial findings

NPT: External validity of the trial findings according to the intervention, comparators, patients, and care providers or centers involved in the trial

#### 21-i) Generalizability to other populations

Generalizability to other populations: In particular, discuss generalizability to a general Internet population, outside of a RCT setting, and general patient population, including applicability of the study results for other organizations

subitem not at all important

essential

#### Does your paper address subitem 21-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.22: "Strengths include participant characteristics reflecting those of the broader TSS workforce, meaning the reported findings can be generalised to similar public sector workplaces with some confidence."

# 21-ii) Discuss if there were elements in the RCT that would be different in a routine application setting

Discuss if there were elements in the RCT that would be different in a routine application setting (e.g., prompts/reminders, more human involvement, training sessions or other co-interventions) and what impact the omission of these elements could have on use, adoption, or outcomes if the intervention is applied outside of a RCT setting.

subitem not at all important

essential

#### Does your paper address subitem 21-ii?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

The SMWP is not usually delivered without classes/workshops.

#### OTHER INFORMATION

# 23) Registration number and name of trial registry

#### Does your paper address CONSORT subitem 23? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "...registered with the Australian and New Zealand Clinical Trials Register in February 2018 (Ref: 12617001386325)."

#### 24) Where the full trial protocol can be accessed, if available

#### Does your paper address CONSORT subitem 24? \*

Cite a Multimedia Appendix, other reference, or copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.4: "registered with the Australian and New Zealand Clinical Trials Register in February 2018 (Ref: 12617001386325)."

25) Sources of funding and other support (such as supply of drugs), role of **funders** 

#### Does your paper address CONSORT subitem 25? \*

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.22: "The reported research was undertaken by [LB] as part of a PhD project. [LB] was supported throughout her PhD by an Australian Research Training Program scholarship, and the TasNetworks Elite Health and Wellbeing Scholarship. ALN is supported by a Select Foundation Senior Research Fellowship."

#### X27) Conflicts of Interest (not a CONSORT item)

#### X27-i) State the relation of the study team towards the system being evaluated

In addition to the usual declaration of interests (financial or otherwise), also state the relation of the study team towards the system being evaluated, i.e., state if the authors/evaluators are distinct from or identical with the developers/sponsors of the intervention.

essential

subitem not at all important

#### Does your paper address subitem X27-i?

Copy and paste relevant sections from the manuscript (include quotes in quotation marks "like this" to indicate direct quotes from your manuscript), or elaborate on this item by providing additional information not in the ms, or briefly explain why the item is not applicable/relevant for your study

p.22: "None of the authors have a financial or other conflict of interest to disclose."

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